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Title : Static testing of composite rudder of a military aircraft.

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Abstract :

A CFRP composite rudder, developed at NAL was subjected to static tests. Both distributed and torsional loads were applied on the rudder and the deflections along the spar line and trailing edge were determined. These deflections were compared with that of the metallic rudder. The experiment revealed that the maximum trailing edge and the spar line deflection of the composite rudder were more and marginally less respectively, when compared with that of the metallic rudder. While the metallic rudder exhibited a non-linear behaviour for the distributed load exceeding 600 Kgs, the load deflection behaviour for the composite rudder was linear.